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ABSTRACT

A study investigated the reasons why some agricultural education degree recipients choose not to teach, some vocational agriculture teachers leave the profession, and some vocational agriculture teachers stay in teaching. The sample included all agricultural education majors graduating from Oregon State University (OSU) from 1971 to 1982. Data collected by a mailed questionnaire were analyzed using means, frequency counts, single classification analysis of variance, multiple variate analysis, and multiple-discriminant analysis. Factors important to initial placement and teacher tenure were four years in high school programs with four years of a Future Farmers of American (FFA) program and Supervised Occupational Experience Program, place of teacher preparation and the existence of a strong FFA chapter at the student teaching center, and a combination of community college and OSU education. Generally, people left teaching because of concerns for time, money, and classroom control; people stayed in teaching because of acquisition of technical skill, professional preparation, and enjoyment of work and student relationships. It was recommended that students actively involved in a total program in vocational education or with hands-on preparation in technical agriculture from a community college be actively recruited as agricultural education majors. (YLB)

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OREGON VOCATIONAL AGRICULTURE TEACHER PLACEMENT AND RETENTION FACTORS

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Statement of the Problem

Oregon and the nation have experienced a persistent shortage in the availability of qualified vocational agriculture teachers for the past 25 years. Only recently has the economic down-turn provided any relief for this problem. There have been research studies which sought to identify why teachers left teaching, including Knight and Bender (1979) at Ohio State University and Orlich and Rust (1976) at Washington State University. These studies have shown inadequate salary and long working hours to be consistent major problems; however, their questionnaires did not address the quality of technical agricultural preparation as a potential source of the problem. Osborn (1982) completed research in Ohio which asked teachers to identify their hands-on technical preparation in animal science. However, his research did not try to identify potential links between the lack of appropriate technical agriculture preparation and the placement and/or retention of vocational agriculture teachers.

Dr. Miller (1976) found Agricultural Education graduates listed securing more personal freedom and securing a higher salary as major reasons for not entering the teaching profession; however, again, quality of technical preparation was not addressed.

Activities of vocational agriculture teachers have been identified and prioritized by both vocational agriculture teachers and their principals in Iowa (Cole, 1978). This was done to identify vocational agriculture

teacher burn-out factors and reduce the number of vocational agriculture teachers leaving teaching. The possibility of inadequate technical agriculture preparation was not specifically considered in that study.

Reilly and Welton (1980) at Kansas State University studied why vocational agriculture teachers stayed in teaching. Again, quality of technical agriculture preparation was not included on the survey questionnaire.

One- and five-year follow-up studies of teaching Agricultural Education graduates at Oregon State University (OSU) indicate very strongly that the quality of technical agriculture preparation was a major concern of practicing vocational agriculture teachers in Oregon, Cole (1983). Is it also possible that quality of technical agriculture preparation was a contributing factor for the decision not to teach of those agricultural education graduates who have never taught vocational agriculture? And likewise, could quality of technical agriculture preparation have been a major concern leading to the decision to leave teaching for those vocational agriculture teachers who have taught and left?

Objectives of the Study:

The objectives of the study were as follows:

1) To determine reasons why some Agricultural Education degree recipients choose not to teach vocational agriculture.
2) To determine reasons why some vocational agriculture teachers who enter the teaching profession choose to leave.
3) To determine reasons why some vocational agriculture teachers decide to stay in teaching.
4) Identify where statistically significant differences occur in the opinion of those who never taught, those who taught and left,

and those who are still teaching.

5) Determine key criteria which account for the majority of the variation which occurred among the three research groups (those who never taught, those who taught and left, and those who are still teaching).

Methodology and Procedure

A computer search was conducted using the Library Information Retrieval Service (LIRS). Relevant literature was identified to gain a perspective of data which was presently available on the questions under study relative to Agricultural Education. Questionnaires were developed which included important criteria for decisions to enter, stay in, or leave the teaching of vocational agriculture from previous research. In addition, questions were included which dealt with the individual's perceptions of the quality of their technical preparation in agriculture, both from a scientific knowledge basis and a hands-on basis. The questionnaires were submitted to a panel of experts and refinements were made to increase instrument validity and reliability. The instrument was then field tested and final adjustments were made.

The sample selected was all Agricultural Education majors graduating from Oregon State University during the twelve-year period 1971-1982. Only those who graduated and were certified to teach were included in the sample.

A cover letter and questionnaire were mailed to study participants with a follow-up letter and questionnaire mailed three weeks after the original mailing to non-respondants.

Analysis of data was done using means, frequency counts, single classification analysis of variance (ANOVA), multiple variate analysis (Scheffe's

Test), and multiple-discriminant analysis. The alpha level was set at the 0.05 level for rejection of the null hypothesis.

Findings, Conclusions and Discussion

Table One shows the number of participants and return rates by group, while Table Two provides information about the gender of the respondants.

Table 1. Sample and Response.

Group	Number in Group	Response to 1st Mailing	Response to 2nd Mailing	Total Number Responding	Percent Responding
Graduates Who Never Taught	74	25	12	37	50%
Graduates Who Taught and Left Teaching	75	35	18	53	69%
Graduates Who Are Still Teaching	81	43	18	61	75%
Total for Study	230	103	48	151	66%

There were 151 respondants with 40 percent being vocational agricultural teachers still teaching, 35 percent vocational agriculture teachers who started teaching and quit, and 25 percent Agricultural Education majors who never taught vocational agriculture.

Table 2. Gender of Respondants.

Gender	Never Taught	Taught & Left	Still Teaching
Female	27%	8%	10%
Male	73%	92%	90%

In 50 percent of the cases, the reason given by females who never taught for not teaching was that there was no vocational agriculture teaching

position available within a commute of the spouse's work.

Table Three displays data concerning the graduates' high school and work experience background.

Table 3. High School and Work Experience Background.

Group	4 Years of H.S. Voc.Ag.	4 Years FFA	Extremely Active in FFA	4 Years SOEP	Extremely Active in SOEP	Rural H.S.	$\bar{x}$ Years of Work Experience in Voc.Ag.	Excellent Quality Work Exp. Rating
Never Taught	43%	55%	42%	32%	35%	81%	6	26%
Taught & Left	69%	74%	53%	68%	40%	89%	7	29%
Still Teaching	64%	80%	63%	72%	53%	80%	7	37%

Four years in high school vocational agriculture programs with four years of a Future Farmers of America (FFA) program and Supervised Occupational Experience Program (SOEP) are more important to initial placement and teacher tenure than being from a rural high school.

Table Four presents information concerning preparation for teaching.

Table 4. Preparation for Teaching Generally.

Group	Rural H.S. for St. Tea.	Very Good-Excellent Quality of Classroom Inst. at St.Tea.Ctr.	Very Good-Excellent SOEP at St. Tea. Center	Very Good-Excellent FFA at St. Tea. Center	Institution of Preparation	
					OSU only	OSU & CC
Never Taught	75%	59%	30%	42%	65%	26%
Taught & Left	77%	55%	31%	59%	53%	35%
Still Teaching	61%	55%	35%	62%	51%	39%

Place of teacher preparation (i.e., OSU only versus a combination of OSU and Community College) and a strong FFA chapter at their student

teaching center had more impact on retention and/or initial placement of vocational agriculture teachers than did the rural or urban nature of their student teaching center and/or the quality of classroom instruction at their student teaching center.

Note, students who transferred from a community college had a minimum of 70 credits of technical agriculture, much of it hands-on in nature, as compared to the 60 credits of technical agriculture students of the four year Agricultural Education major received at OSU. This may partially explain the reason for greater placement and tenure of Agricultural Education graduates who combined community college education with OSU education. This assumption was supported by one- and five-year follow-up studies, Cole (1983), of presently teaching Agricultural Education majors. In this study, vocational agriculture teachers recommended the combination of community college and OSU coursework primarily because of the hands-on nature of the community college work.

The median salary for those still teaching vocational agriculture was $20624; for those who taught and left, $20556; and for those who never taught, the median salary was $23332. The salary range for those still teaching vocational agriculture was $15000-$36000; for those who taught and left, $0-$125000+; and for those who never taught, $0-$125000+.

There were 46 items on the questionnaire dealing with the respondants' perceptions about the job of teaching vocational agriculture and their preparation for that job. Table Five provides information regarding the group response to each of the 46 items.

Each item on the questionnaire had a five-point response scale. The response scale was as follows:

5 = Great Influence to Teach
4 = Some Influence to Teach
3 = No Influence
2 = Some Influence Not to Teach
1 = Great Influence Not to Teach

Table 5. Job Characteristic and Preparation Response.

Questionnaire Item	$\bar{x}$ Never Taught	$\bar{x}$ Taught and Left	$\bar{x}$ Still Teaching	F Ratio	F Prob.
1. In general, the quality of technical agriculture hands-on preparation.	3.18	3.46	3.52	2.045	0.133
2. In general, the quality of technical agriculture scientific knowledge.	3.43	3.69	3.77	2.032	0.135
3. Animal science hands-on skills.	3.22	3.42	3.31	0.482	0.619
4. Animal science scientific knowledge.	3.43	3.70	3.57	1.198	0.305
5. Crops hands-on skills.	3.00	3.16	2.97	0.441	0.644
6. Crops scientific knowledge.	3.30	3.51	3.16	1.594	0.206
7. Horticulture hands-on skills.	3.63	3.24	3.35	2.559	0.081
8. Horticulture scientific knowledge.	3.64	3.40	3.24	2.449	0.090
9. Soils hands-on skills.	3.21	3.28	3.27	1.102	0.335
10. Soils scientific knowledge.	3.31	3.80+	3.32	4.417	0.014*
11. Farm Business Management hands-on skills.	3.42	3.35	3.03	2.254	0.109
12. Farm Business Management scientific knowledge.	3.53	3.49	3.19	1.969	0.143
13. Agricultural Mechanics hands-on skills.	3.86	4.06	4.16	1.357	0.260
14. Agricultural Mechanics scientific knowledge.	3.84	4.00	4.05	0.741	0.478
15. Preparation in youth leadership.	3.08	3.54	3.63+	4.724	0.010*
16. Preparation in vocational agriculture program planning and management.	3.28	3.68	4.02+	6.662	0.001*
17. Preparation in teaching methods.	3.46	3.48	4.03+	5.205	0.006*
18. Preparation in curriculum development.	3.11+	3.72	4.06	9.059	0.000*
19. Preparation in classroom control.	2.68	2.80	3.17	3.028	0.052
20. Student teaching experience.	3.49+	4.34	4.33	7.421	0.000*
21. High School student interest in vocational agriculture.	3.86	3.28+	4.00	6.135	0.003*
22. High School student need for control.	2.69	2.68	3.08	2.472	0.088
23. High School student appreciation of extra effort.	2.92	3.04	3.20	0.691	0.503
24. High School students' ability to identify goals in agriculture.	3.46	3.21	3.58	2.089	0.127
25. High School student involvement in other school activities.	3.10	2.87	3.03	0.862	0.425
26. Availability of vocational agriculture teaching positions in Oregon.	3.32	3.54	3.72	1.342	0.265
27. My long-range occupational objectives to teach.	2.86	2.84	3.98+	16.597	0.000*
28. Prestige of vocational agriculture teachers.	2.64	2.98	3.13	2.569	0.080
29. Amount of personal freedom teachers allowed.	2.75	2.80	3.44+	5.926	0.003*
30. Spouse support for teaching vocational agriculture.	2.97	3.00	3.45+	3.705	0.027*
31. Salary of vocational agriculture teachers.	2.40	2.41	2.84	2.224	0.112
32. Hours of vocational agriculture teachers.	2.27	2.43	2.57	1.031	0.359
33. Evening responsibility of vocational agriculture teacher.	2.37	2.41	2.34	0.085	0.919
34. Job advancement potential of vocational agriculture teachers.	2.67	2.58	2.64	0.064	0.938
35. Twelve-month contract for vocational agriculture teachers.	3.05	3.48	3.62+	3.602	0.029*
36. Certification requirements for vocational agriculture teachers.	2.67	2.56	2.78	0.841	0.434
37. Interpersonal relationships with high school administrators.	2.92	2.61	3.16	2.948	0.056
38. Facilities for vocational agriculture program.	2.83+	3.34	3.66	6.271	0.002*
39. Class size in vocational agriculture program.	3.43	3.31	3.59	1.214	0.300
40. Ability to organize and manage a vocational agriculture program.	3.27	3.48	3.75	2.694	0.071
41. Opportunity to teach course in areas other than agriculture.	3.19	3.15	3.11	0.106	0.899
42. Opportunity to spend time with family.	2.36	2.35	2.64	1.211	0.301
43. Time available for hobbies and interests.	2.29	2.45	2.72	1.880	0.156
44. Opportunities for inservice on technical agriculture.	3.22	3.31	3.63	2.629	0.076
45. Opportunities for inservice in program development.	3.05	3.21	3.37	1.693	0.187
46. Opportunities for inservice in classroom management, learning theories, and methods.	2.94	2.92	3.12	1.053	0.350

*Note: Alpha level = .05, and an asterix was placed at statistically significant F Probabilities. A plus sign (+) was placed by the mean in the group which was statistically significant as compared to one or both of the others.

Mean scores in the technical agriculture preparation block (numbers 1-14) are generally higher for those who taught and left and those still teaching as compared to those who never taught. The only statistically significant difference was between those who taught and left as compared to the other two groups on the subject of soils scientific knowledge.

For agricultural education professional preparation areas (numbers 15-20) those still teaching rated their preparation statistically significantly higher in all but one category, that being classroom control. It appears those who teach vocational agriculture feel better prepared to teach than those who never taught, and those who taught and left.

Personal and professional concerns (numbers 21-46) contained six items of statistical significance. These areas included high school student interest in vocational agriculture, long-range goals of the teacher in teaching, amount of freedom teaching agriculture allowed, spouse support for teaching vocational agriculture, twelve-month contracts, and facilities for vocational agriculture.

Tables Six, Seven, and Eight present data on the ten most important items for each group's decision basis on mean scores.

Table 6. Why Agricultural Education Majors Don't Teach.

Rank	Questionnaire Item	Mean Score
1	Hours worked by vocational agriculture teachers.	2.27
2	Time available for hobbies and interests.	2.29
3	Opportunity to spend time with family.	2.36
4	Evening responsibilities of vocational agriculture teacher.	2.37
5	Salary of vocational agriculture teacher.	2.40
6	Prestige of vocational agriculture teacher.	2.64
7	Job advancement potential of vocational agriculture teacher.	2.67
8	Certification requirements for vocational agriculture teacher.	2.67
9	Preparation in classroom control.	2.68
10	High School student need for control.	2.69

Table 7. Why Vocational Agriculture Teachers Leave Teaching.

Rank	Questionnaire Item	Mean Score
1	Opportunity to spend time with family.	2.35
2	Salary of vocational agriculture teacher.	2.41
3	Evening responsibility of vocational agriculture teacher.	2.41
4	Hours worked by vocational agriculture teacher.	2.43
5	Certification requirements for vocational agriculture teacher.	2.56
6	Job advancement potential of vocational agriculture teacher.	2.58
7	Interpersonal relationships with high school administrators.	2.61
8	High school student need for control.	2.68
9	Preparation in classroom control	2.80
10	Amount of personal freedom teaching allows.	2.80

Table 8. Why Vocational Agriculture Teachers Stay in Teaching.

Rank	Questionnaire Item	Mean Score
1	Student Teaching experience.	4.33
2	Agricultural mechanics hands-on skill.	4.16
3	Preparation in curriculum development.	4.06
4	Agricultural mechanics scientific knowledge.	4.05
5	Preparation in teaching methods.	4.03
6	Preparation in vocational agriculture program planning and management.	4.02
7	High school student interest in vocational agriculture.	4.00
8	Long-range occupational objective to teach.	3.98
9	In general, the quality of technical agriculture scientific knowledge.	3.77
10	Ability to organize and manage a vocational agriculutre program.	3.75

Generally, people leave vocational agriculture teaching because of concerns for time, money, and lack of classroom control, whereas, people stay in teaching because of acquisition of technical skill (from whatever source), professional preparation, and they enjoy the work and the student relationships.

Multiple discriminant analysis was used to determine which of the 46 items were the most powerful for discriminating placement of variables among the three groups (i.e., never taught, taught and left, and still teaching). The F to enter or remove value was set at the 1.0 level. This procedure allowed for the identification of 20 items. These 20 items produced a prediction formula accuracy of 76 percent and a canonical correlation for function one of 0.7289 which translates to an estimated explained variance of

53 percent. (See Appendices A and B.)

Table Nine presents data from the multiple discriminant analysis in rank order one through twenty.

Table 9. Multiple Discriminant Analysis.

Rank	Questionnaire Item	Wilks Lambda	Significance
1	Long-range occupational objective and commitment to teaching.	0.7936	0.0000
2	Student teaching experience (Professional Preparation).	0.6794	0.0000
3	Student teaching experience (Professional Concerns).	0.6055	0.0000
4	Quality of preparation in program planning and management.	0.5598	0.0000
5	Quality of preparation in scientific knowledge of soils.	0.5256	0.0000
6	Facilities for vocational agriculture programs.	0.4914	0.0000
7	Student involvement in other school activities.	0.4541	0.0000
8	Student interest in vocational agriculture.	0.4257	0.0000
9	Interpersonal relationships with administrators.	0.4040	0.0000
10	Job advancement potential of vocational agriculture teachers.	0.3836	0.0000
11	The amount of personal freedom teaching allowed.	0.3672	0.0000
12	Student appreciation for extra effort required to teach vocational agriculture.	0.3516	0.0000
13	Twelve-month contracts for vocational agriculture teachers.	0.3386	0.0000
14	Quality of preparation in teaching methods.	0.3264	0.0000
15	Opportunity to teach courses other than agriculture.	0.3157	0.0000

Table 9. Multiple Discriminant Analysis (continued)

Rank	Questionnaire Item	Wilks Lambda	Significance
16	Evening responsibilities of vocational agriculture teachers.	0.3061	0.0000
17	Hours worked as a vocational agriculture teacher.	0.2985	0.0000
18	Quality of preparation in hands-on Animal Science skills.	0.2923	0.0000
19.	Quality of preparation in hands-on Horticulture skills.	0.2848	0.0000
20.	Quality of preparation in technical agriculture scientific knowledge, generally.	0.2786	0.0000

The quality of the student teaching experience, the quality of professional (pedagogical) and technical hands-on preparation and specific attitudinal adjustment appear to be the major areas that teacher educators can impact to improve vocational agriculture teacher placement and retention.

An open-ended question was asked at the end of the questionnaire. The question sought information regarding the most important reason for teaching and the most important reason not to teach. Fifty-four percent of the respondants still teaching combined "enjoyed students" and "like teaching" as the primary reasons for staying in teaching. Forty percent of the respondants who left teaching combined "inadequate salary", "long hours worked", and "wanted to get into production agriculture" as major reasons for leaving teaching. Thirty-eight percent of the respondants who never taught combined "job opportunities in production agriculture", "job opportunities in agribusiness", and "low salary for teachers" as major reasons for not entering teaching.

Recommendations and Implications

Major recommendations and implications of this study include the following.

Students who have been actively involved in a total program in vocational agriculture, with special attention to the SOEP and FFA involvement, should be recruited as Agricultural Education majors.

Student teaching centers should not only have good teachers, but active SOEPs and FFA chapters as well.

Students who go to a community college to get hands-on preparation in technical agriculture should be recruited into the teaching profession. This is true for two reasons. First, they tend to teach and stay in teaching longer. Second, they rate their technical agriculture preparation higher.

Increases in the quality of coursework in technical agriculture for both hands-on skills and scientific knowledge should be made to increase initial teacher placement and improve retention of vocational agriculture teachers. This is consistant with differences found between those who attended a community college first, as opposed to those who worked at OSU only.

Data provided by community college transfer graduates and those attending OSU only, plus mean score ratings on technical agriculture knowledge and hands-on skills by the three categories of study respondants (did not teach, taught and left, and still teaching) indicate that both technical knowledge and hands-on skill are important criterion to vocational agriculture placement and retention.

Pedagogy in Agricultural Education is extremely important to the longevity of vocational agriculture teachers. Given the difference in mean scores reported by the two groups for the same courses taken, it appears some take their pedagogy courses much more seriously than others.

Long range occupational objective forecasts appear important to determining an Agricultural Education major's final occupational destination. Occupational objectives for Agricultural Education majors should be identified

early and appropriate counseling should follow.

Spouse support, low salary, long hours, time for hobbies and recreation concerns of respondants in this study remain consistant with identified concerns of respondants to other follow-up studies in Oregon and other states. Efforts should be made programmatically to reduce these concerns.

Standard Certification requirements should be reviewed considering the very low mean scores given by all three groups.

The preservice program must address interpersonal relationships with administrators and how to build student interest in vocational agriculture courses and activities, especially when SOEP and FFA activities are in competition with other school activities.

Follow-up studies should be conducted periodically to assess the value of Agricultural Education program changes and to determine Agricultural Education program direction.

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